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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/520,681
Filing Date: January 07, 2005
Appellant(s): NEUHAUS ET AL.

Bryan H. Opalko
(Reg. No. 40,751)
Lynn J. Alstadt
(Reg. No. 29,362)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 17, 2010 appealing from the Office action mailed February 18, 2010.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Traversat et al	U.S. Publication 2002/0184357	12/05/2002
Periasamy et al	U.S. Patent 6,065,062	05/16/2000

(9) Grounds of Rejection

The following ground(s) of rejection, taken from the last office action, mailed are applicable to the appealed claims:

****

DETAILED ACTION

1. Claims 1--32 are subject to examination. Claims 1-7, 10-13, 19-21, 26, 27 and 30 are cancelled.

Response to Arguments

2. Applicant's arguments filed 12/02/2009 have been fully considered but they are not persuasive for the following reasons:

Applicant's argument: Claim 8

"Applicants recognize that this reference teaches the consideration of cost in selecting a backup peer. However, there is no teaching or suggestion of utilizing "a current utilization of each of the server functionalities" as required by amended Claim 8. There is no explanation of what is included in the phrase "other network management information being relevant by the system designer." Only through improper hindsight would this phrase be read to encompass current utilization levels. Neither of the cited references speak of current utilization levels as network management information."

Examiner's response:

Periasamy teaches at col. 9, line 27-31, "Alternatively or in addition, however, remote peers can select among local backup peers based on cost information obtained during the capabilities exchange; indeed, this information can be used not only for backup purposes, but also **to facilitate load balancing** with respect to primary peers.

Periasamy also teaches at Col. 10, line 14-27, "This approach is especially useful in network configurations requiring backup peers **to periodically report current load information not only to primary peers, but to backup peers as well**."

Applicant's argument:

"For that reason, each peer would monitor all other peers in the network, not just the neighboring ones as required by Claim 27."

"Paragraph 0028 discloses rendezvous nodes performing a message forwarding function. Message forwarding is not acting as a gateway, as explained in paragraph 0004 of the present application. A gateway is a link to a circuit switching communication

network. Neither Traversat nor Periasamy discloses components in a communication system that act as gateways. Traversat is concerned with peer-to-peer communications."

Examiner's response:

Claim 28 recites "one of the communication components performs a gateway search for a gateway among the neighboring communication components in the servant list". As such gateway is any neighboring component that "returns a first hit response to said one communication component" as the claim further recites. Traversat teaches these limitations at para.[0028]-[0035]).

***Claim Rejections* - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 8, 9 and 14-18, 22-25 and 27-32 are rejected under 35 U.S.C. 103(a) as being Unpatentable over Traversat et al. (hereinafter Traversat) (US 2002/0184357 A1), in view of Periasamy et al. (hereinafter Periasamy)(US Patent 6,065,062)

Referring to claim 8,

Traversat teaches a communication network (Fig. 1 B) comprising:

a plurality of communication components (para. [0026], "A peer-to-peer network may include a plurality of peer nodes. Each peer node may comprise a network node that may be configured to communicate with other peer nodes over the peer-to-peer network. The peer-to-peer network may also include one or more rendezvous nodes. Each rendezvous node may cache one or more resource advertisements for discovery by the peer nodes on the peer-to-peer network. Each resource advertisement may include an indication of how to access a corresponding network resource. Network resources may include, but are not limited to, peers, peer groups, services, content, pipes and pipe endpoints. The resource advertisements may be formatted according to a peer-to-peer platform discovery protocol."), at least some of which comprise both client and server functionalities (para. [0027], "Rendezvous nodes preferably cache information that may be useful to peer nodes including new peer nodes. Rendezvous nodes may provide an efficient mechanism for isolated peer nodes to discover network resources and may make peer node discovery more practical and efficient. In one embodiment, peer nodes may become rendezvous nodes. Peer nodes may elect themselves, through the discovery protocol, to become rendezvous nodes. Alternatively, peer nodes may be appointed rendezvous nodes by their peer groups. Preferably, a peer group is not required to have a rendezvous node. In one embodiment, any members of a peer group may become rendezvous nodes in a peer."), at least some of the client functionalities including a search function that ascertains network addresses of others of the communication components that allow the server functionalities of the

others to be used (para. [0031], "The rendezvous node may not currently have advertisements cached that satisfy the discovery query message. In this case, in one embodiment, the rendezvous node may broadcast a discovery query message on the peer-to-peer network to discovery advertisements satisfying the peer node's discovery query message. In another embodiment, the rendezvous node may forward the discovery query message to one or more other rendezvous nodes on the peer-to-peer network. Alternatively, the rendezvous node may forward the discovery query message to one or more rendezvous nodes specializing in caching advertisements on a particular topic specified by discovery query message. The one or more other rendezvous nodes may respond with one or more response messages including advertisements of the type specified by the discovery query message. The rendezvous node may cache the advertisements in the response messages. The rendezvous node and the other responding rendezvous node may provide route discovery for the resources advertised in the response message. The rendezvous nodes may include route information in the response message. The rendezvous node may forward the one or more response messages to the peer node.", para.[0029] In one embodiment, peer nodes may discover advertisements using a rendezvous node. For example, a peer node may broadcast discovery query message. Discovery query message may be formatted in accordance with a peer-to-peer platform discovery protocol. The discovery query message may include criteria specifying a particular type of network resource in which the peer node is interested. The discovery query message may include a security credential. The rendezvous nodes receiving the discovery query message may use the security

credential to authenticate the sender. The discovery query message may also include the TTL as described above.", para. [0082], "A peer group may theoretically be as large as the entire connected universe. Naming anything uniquely is a challenge in such a large namespace. In one embodiment, the peer-to-peer platform may support and/or provide sophisticated naming and binding services. In one embodiment, the peer-to-peer platform may use a universal unique identifier (UUID), for example, a 64- or 128-bit datum, to refer to an entity (e.g. a peer, peer group, pipe, content, etc.). For example, UUIDs may be embedded in advertisements for internal use. UUIDs preferably may be used to guarantee that each entity has a unique UUID within a local runtime environment and serves as a canonical way of referring to an entity, but because a global state is not assumed, it may not be possible to provide a guarantee of uniqueness across an entire community that may consist of millions of peers. This may not be a problem because a UUID may be used within the peer-to-peer platform as an internal identifier. This may become significant only after the UUID is securely bound to other information such as a name and a network address. In one embodiment, Uniform Resource Name (URN) format may be used for the expression of UUIDs.");

a retrieval mechanism in said at least some of the client functionalities that obtains information about the server functionalities of said other communication components (para.[0031], "[0031] The rendezvous node may not currently have advertisements cached that satisfy the discovery query message. In this case, in one embodiment, the rendezvous node may broadcast a discovery query message on the peer-to-peer network to discovery advertisements satisfying the peer node's discovery

query message. In another embodiment, the rendezvous node may forward the discovery query message to one or more other rendezvous nodes on the peer-to-peer network. Alternatively, the rendezvous node may forward the discovery query message to one or more rendezvous nodes specializing in caching advertisements on a particular topic specified by discovery query message. The one or more other rendezvous nodes may respond with one or more response messages including advertisements of the type specified by the discovery query message. The rendezvous node may cache the advertisements in the response messages. The rendezvous node and the other responding rendezvous node may provide route discovery for the resources advertised in the response message. The rendezvous nodes may include route information in the response message. The rendezvous node may forward the one or more response messages to the peer node."); and

wherein the server functionalities provide usable services in the communication network [0090] The peer-to-peer platform may further include a peer-to-peer services layer 140. This layer may provide capabilities that may not be absolutely necessary for a peer-to-peer network to operate but that may be desirable to provided added functionality beyond the core layer 120 in the peer-to-peer environment. The service layer 140 may deal with higher-level concepts such as search and indexing, directory, storage systems, file sharing, distributed file systems, resource aggregation and renting, protocol translation, authentication and PKI (public key infrastructure) systems. These services, which may make use of the protocols and building blocks provided by the core layer 120, may be useful by themselves but also may be included as components in an

overall P2P system. Thus, services may include one or more services 144 provided by the peer-to-peer platform. These platform-provided services 144 may include indexing, searching and file sharing services, for example. The services layer 140 may provide hooks for supporting generic services (such as searching, sharing and added security) that are used in many P2P applications. Thus, services may also include one or more services 142 not provided as part of the peer-to-peer platform but rather provided by the peer-to-peer platform community. These services 142 may be user-defined and may be provided, for example, to member peers in a peer group as a peer group service.")

Although Traversat teaches at para. [0083], "Peer monitoring 128 enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting, traffic metering (current utilization level), and bandwidth balancing (cost). " para. [0176], "Simple, low- cost information search and indexing using a content sharing service.", Traversat fails to teach wherein the server functionalities provide usable services in the communication network wherein a server functionality is selected for use by a client functionality using a state information comprising current utilization level of each of the server functionalities and the cost to use each of the server functionalities.

Periasamy teaches "wherein the server functionalities provide usable services in the communication network wherein a server functionality is selected for use by a client functionality using a state information comprising current utilization level of each of the server functionalities and the cost to use each of the server functionalities"(col. 9, line 27-54).

Thus, the manner of enhancing a plurality of communication components of Traversat was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Periasamy. Accordingly, one of ordinary skill in the art would have been capable of applying this known "improvement" technique in the same manner to the prior art communication components of Periasamy and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized that applying the teachings of Periasamy would establish an optimal use of the network from the perspective of network efficiency and telecommunication cost.

Referring to claim 9,

Traversat teaches the communication network as claimed in Claim 8, wherein the communication network provides for a self-administration on the basis of the information ascertained by the search functions. (para. [0081] The peer-to-peer platform may provide mechanisms through which peers may discover each other, communicate with each other, and cooperate with each other to form peer groups. Peers may discover each other on the network to form transient or persistent relationships called peer groups. A peer group is a collection of peers connected by a network that share a common set of interests and that have agreed upon a common set of rules to publish, share and access any computer content (code, data, applications, or other collections of computer representable resources), and communicate among themselves. Peer groups may also be statically predefined. The peers in a peer group may cooperate to provide a common set of services. A peer group may be viewed as an abstract region of the

network, and may act as a virtual subnet. The concept of a region virtualizes the notion of routers and firewalls, subdividing the network in a self-organizing fashion without respect to actual physical network boundaries. In one embodiment, peer groups implicitly define a region scope that may limit peer propagation requests. Conceptually, a peer group may be viewed as a virtual entity that speaks the set of peer group protocols.")

Referring to claim 14,

Traversat teaches the communication network as claimed in Claim 8, wherein the client functionality is designed to retrieve an authorization before using a server functionality (para. [0083]) The core layer 120 provides core support for peer-to-peer services and applications. In a multi-platform, secure execution environment, the core mechanisms of peer groups, peer pipes and peer monitoring may be provided. Peer groups 122 may establish a set of peers and naming within a peer group with mechanisms to create policies for creation and deletion, membership, advertising and discovery of other peer groups and peer nodes, communication, security, and content sharing. Pipes provide virtual communication channels among peers. Messages sent in pipes may support transfer of data, content, and code in a protocol-independent manner, allowing a range of security, integrity, and privacy options. In one embodiment, messages may be structured with a markup language such as XML. Peer monitoring 128 enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting, traffic metering and bandwidth balancing.")

Referring to claim 15,

Traversat teaches the communication network as claimed in Claim 14, wherein at least one server functionality is provided for managing the authorization ((para. [0083] The core layer 120 provides core support for peer-to-peer services and applications. In a multi-platform, secure execution environment, the core mechanisms of peer groups, peer pipes and peer monitoring may be provided. Peer groups 122 may establish a set of peers and naming within a peer group with mechanisms to create policies for creation and deletion, membership, advertising and discovery of other peer groups and peer nodes, communication, security, and content sharing. Pipes provide virtual communication channels among peers. Messages sent in pipes may support transfer of data, content, and code in a protocol-independent manner, allowing a range of security, integrity, and privacy options. In one embodiment, messages may be structured with a markup language such as XML. Peer monitoring 128 enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting traffic metering, and bandwidth balancing.")

Referring to claim 16,

Claim 16 is a claim to a method that is implemented in a communication network of claim 8. Therefore claim 16 is rejected for the reasons set forth for claim 8.

Referring to claim 17,

Claim 17 is a claim to a method that is implemented in a communication network of claim 9. Therefore claim 17 is rejected for the reasons set forth for claim 9.

Referring to claim 18,

Claim 18 is a claim to a method that is implemented in a communication network of claim 10. Therefore claim 18 is rejected for the reasons set forth for claim 10.

Referring to claim 22,

Claim 22 is a claim to a method that is implemented in a communication network of claim 14. Therefore claim 22 is rejected for the reasons set forth for claim 14.

Referring to claim 23,

Claim 23 is a claim to a method that is implemented in a communication network of claim 15. Therefore claim 23 is rejected for the reasons set forth for claim 15.

Referring to claim 24,

Traversat teaches the method as claimed in Claim 16, wherein the current address of all of the communication components are ascertained (para. [0028] Rendezvous nodes may be helpful to an isolated peer node by quickly seeding it with lots of information. In one embodiment, a network of rendezvous nodes may help to provide long-range discovery capabilities. A discovery message from a peer node may be forwarded from a first rendezvous node to a second, and so long, to discover peer nodes and/or peer groups that are "distant" on the network from the requesting peer node. In one embodiment, only rendezvous nodes may forward a discovery request to another rendezvous node. This restriction may limit the propagation of requests within the network. Each discovery query message may include a time-to-live (TTL) indicator. TTL's may also help limit the propagation of requests within the network. The TTL may indicate a length of time during which the resource advertisement is valid. The

rendezvous nodes receiving the discovery query message may decrement the time-to-live indicator to reflect the current time-to-live. When the TTL expires, the discovery query message may be deleted or invalidated. Thus, Rendezvous nodes may help prevent exponential propagation of requests within the network by limiting forwarding and by using TTL's.")

Referring to claim 25,

Traversat teaches the method as claimed in Claim 16, wherein the server functionality of all of the communication components are retrieved [0029] In one embodiment, peer nodes may discover advertisements using a rendezvous node. For example, a peer node may broadcast discovery query message. Discovery query message may be formatted in accordance with a peer-to-peer platform discovery protocol. The discovery query message may include criteria specifying a particular type of network resource in which the peer node is interested. The discovery query message may include a security credential. The rendezvous nodes receiving the discovery query message may use the security credential to authenticate the sender. The discovery query message may also include the TTL as described above.")

Referring to claim 27,

Traversat teaches the communication network as claimed in Claim 8, wherein: each of the communication components searches for neighboring ones of the communication components and creates a servant list of the neighboring communication components; and each of the communication components maintains the current utilization level of each server functionality of the neighboring communication

components in the servant list by performing a repeating search at timed intervals (para. [0083], "Peer monitoring 128 enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting, traffic metering (current utilization level), and bandwidth balancing (cost). " para. [0176], "Simple, low-cost information search and indexing using a content sharing service.").

Referring to claim 28,

Traversat teaches the communication network as claimed in Claim 27, wherein: one of the communication components performs a gateway search for a gateway among the neighboring communication components in the servant list;

a first of the neighboring communication components comprises a first gateway, and returns a first hit response to said one communication component (para.[0028]);

a second of the neighboring communication components does not comprise a gateway, and forwards the gateway search to additional neighboring communication components of the second neighboring communication component; and one of the additional neighboring communication components comprises a second gateway, and returns a second hit response to said one communication component (para.[0028]-[0035]).

Referring to claim 29,

Traversat teaches the communication network as claimed in Claim 28, wherein said one of the communication components chooses one of the gateways for use based

on a respective number of available channels on each gateway and a respective propagation time for the first and second hit responses (para.[0028]).

Referring to claim 30,

Claim 30 is a claim to a method that is implemented in a communication network of claim 27. Therefore claim 30 is rejected for the reasons set forth for claim 27.

Referring to claim 31,

Claim 31 is a claim to a method that is implemented in a communication network of claim 28. Therefore claim 31 is rejected for the reasons set forth for claim 28.

Referring to claim 32,

Claim 32 is a claim to a method that is implemented in a communication network of claim 29. Therefore claim 32 is rejected for the reasons set forth for claim 29.

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

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(10) Response to Argument

Appellant's Argument :

Burden Of Proving Obviousness Under § 103

"**All words in a claim must be considered in judging the patentability of that claim against the prior art.**" MPEP § 2143.03 *(emphasis added)*. "When evaluating claims for obviousness under 35 U.S.C. 103, **all the limitations of the claims must be considered and given weight.**" MPEP § 2143.03 *(emphasis added)*. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." Id. "A 35 U.S.C. 103 rejection is based on 35 U.S.C. 102(a), 102(b), 102(e), etc. depending on the type of prior art reference used and its publication or issue date." MPEP § 2141.01.

To establish a *prima facie* case of obviousness, an Examiner must show that an invention would have been obvious to a person of ordinary skill in the art at the time of the invention. MPEP § 2141. "Obviousness is a question of law based on underlying factual inquiries." Id. The factual inquiries enunciated by the Court include "ascertaining the differences between the claimed invention and the prior art" and "resolving the level of ordinary skill in the pertinent art." MPEP § 2141.

"A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie*

case of obviousness without some objective reason to combine the teachings of the references." MPEP § 2143.01. "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, **there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness**." KSR International Co. v. Teleflex Inc., 550 U.S.398,419, 82 USPQ2d, 1385, 7 (citing In re Kahn, 441 F.3d 977,988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (emphasis added)); MPEP § 2143.01. For instance, an invention that permits the omission of necessary features and a retention of their function is an indicia of nonobviousness. In re Edge, 359 F.2d 896, 149 USPQ 556 (CCPA 1966); MPEP § 2144.04. A conclusory statement to the contrary is insufficient to rebut such an indicia of nonobviousness. *See* MPEP § 2143.01. Moreover, "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." MPEP § 2143.01. Also, "the proposed modification cannot render the prior art unsatisfactory for its intended purpose." MPEP § 2143.01. **(pages 7 and 8 of Appeal Brief)**

Examiner's response:

It must be noted that "Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

Also must be noted is "It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable. See, *Constant v. Advanced Micro-Devices Inc.*, 7 USPQ2d 1064.

Appellant's Argument :

Claims 8-9, 14-18, 22-25, 28-29 and 31-32

Independent claim 8 recites, inter alia:

wherein each of the communication components searches for neighboring ones of the communication components and creates a servant list of the neighboring communication components; and

wherein each of the communication components maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeating search at timed intervals.

Similarly, independent claim 16 recites, inter alia:

wherein each of the communication components searches for neighboring ones of the communication components and creates a servant list of the neighboring communication components; and

wherein each of the communication components maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeating search at timed intervals."

Neither Traversat nor Periasamy, taken alone or in combination, disclose or suggest these claimed limitations. It is clear from the above claim recitations that both independent claims 8 and 16 require that each of the communication components:

1. Searches for neighboring ones of the communication components;

2. Creates a servant list of the neighboring communication components; and

***3. Maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeated search at timed intervals."* (pages 8 and 9 of Appeal Brief).**

Examiner Response:

First of all, Examiner would like to point out what is "communication components". As claim 8 recites "a plurality of communication components at least some of which comprise both client and server functionalities."

Traversat teaches at para. [0027], "Rendezvous nodes preferably cache information that may be useful to peer nodes including new peer nodes. Rendezvous

nodes may provide an efficient mechanism for isolated peer nodes to discover network resources and may make peer node discovery more practical and efficient. **In one embodiment, peer nodes may become rendezvous nodes. Peer nodes may elect themselves, through the discovery protocol, to become rendezvous nodes.** Alternatively, peer nodes may be appointed rendezvous nodes by their peer groups. **Preferably, a peer group is not required to have a rendezvous node.** In one embodiment, any members of a peer group may become rendezvous nodes in a peer group."

And at para. [0090], "The peer-to-peer platform may further include a peer-to-peer services layer 140. This layer may provide capabilities that may not be absolutely necessary for a peer-to-peer network to operate but that may be desirable to provided added functionality beyond the core layer 120 in the peer-to-peer environment. The service layer 140 may deal with higher-level concepts such as search and indexing, directory, storage systems, file sharing, distributed file systems, resource aggregation and renting, protocol translation, authentication and PKI (public key infrastructure) systems. These services, which may make use of the protocols and building blocks provided by the core layer 120, may be useful by themselves but also may be included as components in an overall P2P system. Thus, services may include one or more services 144 provided by the peer-to-peer platform. **These platform-provided services 144 may include indexing, searching and file sharing services, for example. The services layer 140 may provide hooks for supporting generic services (such as searching, sharing and added security) that are used in many P2P applications,**

Thus, services may also include one or more services 142 not provided as part of the peer-to-peer platform but rather provided by the peer-to- peer platform community, These services 142 may be user-defined and may be provided, for example, to member peers in a peer group as a peer group service."

Traversat teaches that communication components (peers) comprise both client and server functionalities. It is the part and parcel of being a peer as described in para. [0027] and [0090].

Traversat teaches at FIG. 2 illustrating one embodiment of peer-to-peer platform software architecture at the conceptual level.

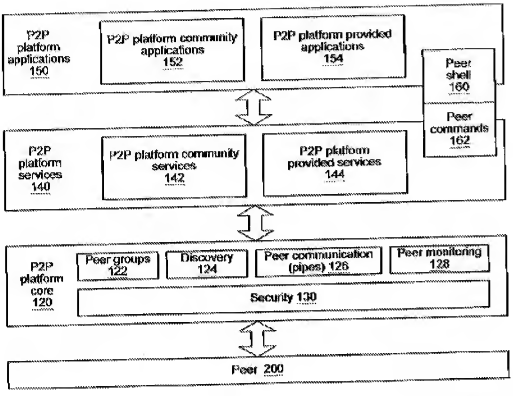

FIG. 2

Please note elements 128 "PEER MONITORING" and 122 "PEER GROUPS."

Each of the peers incorporate this element having the functionality of:

Para. [0083], "**Peer monitoring 128** enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting, traffic metering, and bandwidth balancing."

Peer groups 122 may establish a set of peers and naming within a peer group with mechanisms to create policies for creation and deletion, membership, advertising and discovery of other peer groups and peer nodes, communication, security, and content sharing.

Para. [0114], "Peers may publish and provide network resources (e.g. **CPU, storage and routing resources**) that may be used by other peers. **Peers typically interact with a small number of other peers (network neighbors or buddy peers)**. Peers that provide the same set of services tend to be inter-changeable. Thus, it may not matter which peers a peer interacts with. Generally, assumptions should not be made about peer reliability or connectivity, as a peer may appear or leave the network at any time. Peers may have persistent storage. **A peer may optionally cache information**."

Para. [0128], "Peer groups may also create a monitoring environment. Peer groups may permit peers to monitor a set of peers for any special purpose (heartbeat, **traffic introspection**, accountability, etc.). Peer groups may also provide a controlled and self-administered environment. Peer groups may provide a self-organized structure that is self-managed and that may be locally managed."

Para. [0477], **"Peer Monitoring and Metering"**.

Para. [0478], "Peer monitoring may include the capability to closely **keep track of a (local or remote) peer's status**, to control the behavior of a peer, and to respond to actions on the part of a peer. These capabilities may be useful, for example, when a peer network wants to offer premium services with a number of desirable properties such as reliability, scalability, and guaranteed response time. For example, a failure in the peer system is preferably detected as soon as possible so that corrective actions can be taken. It may be preferable to shut down an erratic peer and transfer its responsibilities to another peer."

Para. [0479], "**Peer metering** may include the capability to accurately account for a peer's activities, **in particular its usage of valuable resources**. Such a capability is essential if the network economy is to go beyond flat-rate services. Even for providers offering flat rate services, it is to their advantage to be **able to collect data and analyze usage patterns** in order to be convinced that a flat rate structure is sustainable and profitable."

Para. [0480], "In one embodiment, the peer-to-peer platform may provide **monitoring and metering** through the peer information protocol, **where a peer can query another peer for data such as up time and amount of data handled**. Security is important in peer monitoring and metering. In one embodiment, a peer may choose to authenticate any command it receives. In one embodiment, a peer may decide to not answer queries from suspect sources."

Additionally, Traversat teaches at:

Para. [0124], "**Peer groups may be formed and self organized based upon the mutual interest of peers**. In one embodiment, no particular rules are imposed on the way peer groups are formed, but peers with the same interests may tend to join the same peer groups."

Para. [0125], "In one embodiment, a scope may be realized with the formation of a corresponding peer group. **Peer group boundaries may define the search scope when searching for a group's content**."

Para. [0126], "**Peer groups may also be formed based upon the proximity of the member peers. Proximity-based peer groups may serve to subdivide the**

network into abstract regions. (neighboring ones of the communication components)."

Para. [0127], "Peer groups may provide a secure cooperative environment. **Peer group boundaries permit member peers to access and publish protected contents**. Peer groups form virtual secure regions which boundaries limit access to the peer group resources."

Parisamy teaches at col. 9, line 27-54, "Alternatively or in addition, however, remote peers can select among local backup peers based on cost information obtained **during the capabilities exchange;** indeed, this information can be used not only for backup purposes, but **also to facilitate load balancing with respect to primary** peers. For example, remote peer 715 can be configured to connect to local primary peer 735 and also to the remote peers on backup list 740**. During the capabilities exchange, each of the local peers to which remote peer 715 connects provides cost data comprising both an "inherent" resource cost associated with the peer itself and a telecommunication cost for the connection.** The resource cost associated with a particular peer (sometimes called the "box cost") represents, essentially, the cost to the network of a connection to the peer, and depends, for example, on its configuration and capabilities (for example, the more computationally powerful the machine and the more memory with which it is equipped, the smaller will be the cost) and the current traffic level through the device (so that high-traffic peers have higher costs than low-traffic peers). The costs associated with the various local peers bias the remote peer to the primary and backups that are optimal from the

perspective of network efficiency and telecommunication cost; the remote peer is programmed to dynamically evaluate cost data, along with any other network-management information deemed relevant by the system designer, in order to select the proper local peers."

Thus as illustrated by above paragraphs of Traversat and Periasamy teaches:

1. Searches for neighboring ones of the communication components;

2. Creates a servant list of the neighboring communication components;

3. Maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeated search at timed intervals.

Appellant's Argument :

What is important in the above claim limitations is the definition provided to the term "neighboring communication component". As used in the present application, the term "neighboring communication component" is a component that is connected directly to another component. This is illustrated in the Figure of the present application and described in the specification as follows.

When component A1 performs the claimed limitations, component A1 creates a servant list of its neighboring communication components, which consist of components A2, A3, A4, B3, B4, B5 and B6. (Specification, para. 0031, page 6, line 29 to page 7, line 2). That is how a "neighboring" component is described in the application, namely, one that it is connected directly to another component. Component A1 would not create a servant list including component B 10, as that component is more than one "hop" or

"jump" away from component A1, and is not a "neighboring communication component" of component A1. Then, component A1 maintains the current utilization level of each server functionality of its neighboring components which are included in the servant list by performing repeated searches at timed intervals. In this manner, say component B6 became disabled, during a repeated search at the timed interval component A1 would note the absence of component B6 and would update its servant list accordingly.

Similarly, when component B3 performs the claimed limitations, it creates a servant list of its neighboring components, including component A1 and component B 10, as these are the components that are connected directly to component B3. Component B3 would not create a servant list including components A3, A2 or A4, as these components are more than one "hop" or "jump" away from component B3, and are not "neighboring communication components" of component B3. Then, component B3 maintains the current utilization level of each server functionality of its neighboring components which are included in the servant list by performing repeated searches at timed intervals. In this manner, the present invention enables each component to create lists of "neighboring communication components" to speed up subsequent search operations for resources.

These features are neither disclosed nor suggested in Traversat and Periasamy, taken alone or in combination.

In the Final Office Action and the Advisory Action, the Examiner cites various passages of Traversat as allegedly disclosing the claimed features. These includes Fig. 2 and paragraphs [0083], [0114], [0128], [0477], [0478], [0479], [0480], [0124], [0125],

[0126] and [0127]. However, all of these passages of Traversat recite very generic and vague functionality present in general peer-to-peer file sharing networks and in no way disclose or suggest the claimed limitations. **(pages 9 and 10 of Appeal Brief)**

Examiner Response:

The examiner respectfully disagrees with the Applicant's definition of "the term "neighboring communication component" is a component that is connected directly to another component".

"An applicant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s). See In re Paulsen, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (inventor may define specific terms used to describe invention, but must do so "with reasonable clarity, deliberateness, and precision" and, if done, must "set out his uncommon definition in some manner within the patent disclosure' so as to give one of ordinary skill in the art notice of the change" in meaning) (quoting *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992))." See MPEP 2111.01.

Applicant discloses in the specification, referring to Figure 1, on page 6, paragraph [0031], "After the proprietary resources of this communication component AI are retrievable and usable by adjacent communication components A2 - A4, B1 - B11,

the component A1 starts the search for "neighboring" communication components A2 - A4, B3 - B6."

The examiner notes, Merriam-Webster$_{TM}$ Thesaurus cites "adjacent" and "neighboring" as synonyms given their ordinary and customary meaning. Furthermore, the Applicant teaches in the specification, still referring to **Figure 1, on page 7, paragraph [0034], "By contrast**, the communication component A2 does not have a gateway and forwards the search query to neighboring communication components which are known to it, in this case the communication components B6 and A4." The Applicant refers to communication components B6 and A4 as being the neighboring communication components of the communication component A2, however, **communication component A2 does not comprise "a component that is connected directly to another component (communication component A4).**

Appellant's Argument :

The Examiner appears to equate the "peer monitoring 128" primitive of Traversat paragraph [0083] and a disclosure of low-cost information search and indexing of Traversat paragraph [0176] as disclosing the afore-mentioned claim limitations. However, the Office Action fails to provide any articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, as required by KSR International Co. v. Teleflex Inc., 550 U.S.398, 82 USPQ2d 1385 (2007).

The Examiner cites Fig. 2 and various paragraphs of Traversat that disclose the operation of peer groups within the peer-to-peer network of Traversat. However, the

presently claimed invention is not concerned with the formation of peer groups for file sharing purposes. This is because the present invention permits the server functionalities of a communication component to be retrieved and used directly by the client functionalities of another communication component without the need to publish the server functionalities in a platform layer for use by other peers in the peer group, as taught by Traversat. Thus, Traversat teaches directly away from the present invention by teaching the formation and operation of peer groups.

For example, with respect to peer groups, Traversat discloses that:

- Peer groups 122 may establish a set of peers and naming within a peer group with mechanisms to create policies for creation and deletion, membership, advertising and discovery of other peer groups and peer nodes, communication, security, and content sharing. (Traversat, para. [0083]).
- Peer monitoring 128 enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting, traffic metering, and bandwidth balancing. (Traversat, para. [0083]).
- Peers may publish and provide network resources (e.g. CUP, storage and routing resources) that may be used by other peers. (Traversat, para. [0114]).
- A peer may optionally cache information. (Traversat, para. [0114]).

- Peer groups may also create a monitoring environment. Peer groups may permit peers to monitor a set of peers for any special purpose (heartbeat, traffic introspection, accountability, etc.). (Traversat, para. [0128]).
- Peer monitoring may include the capability to closely keep track of a (local or remote) peer's status, to control the behavior of a peer, and to respond to actions on the part of a peer. (Traversat, para. [0478]).
- Peer metering may include the capability to accurately account for a peer's activities, in particular its usage of valuable resources. (Traversat, para. [0479]).
- In one embodiment, the peer-to-peer platform may provide monitoring and metering through the peer information protocol, where a peer can query another peer for data such as up time and amount of data handled. (Traversat, para. [0480]).
- Peer groups may be formed and self organized based upon the mutual interest of peers. (Traversat, para. [0124]).
- Peer group boundaries may define the search scope when searching for a group's content. (Traversat, para. [0125]).
- Peer groups may also be formed based upon the proximity of the member peers. (Traversat, para. [0126]). 12
- Proximity-based peer groups may serve to subdivide the network into abstract regions. (Traversat, para. [0126]).

- Peer group boundaries permit member peers to access and publish protected contents. (Traversat, para. [0127]).

All of the above recitations recite generic functionality and minimum primitives of peer groups common to peer-to-peer networking, as well as how the peer groups generally operate within the peer-to-peer network of Traversat. For example, Traversat confirms that peer monitoring 128 is simply a minimal primitive common to peer-to-peer networking in paragraph [0079], which states:

> In one embodiment, the peer-to-peer platform may include a core layer 120 that defines and encapsulates minimum primitives that are common to peer-to-peer networking, including, but not limited to, peers 110, peer groups 122, peer discovery 124, peer communication (e.g. pipes) 126, peer monitoring 128, and associated security primitives 130.

While Traversat may disclose basic functionality of the peer monitoring 128 primitive, it is devoid of any teaching or suggestion of how the peer monitoring 128 primitive performs any functionality to accomplish the basic disclosed tasks.

There is simply no disclosure in Traversat that teaches the searching of neighboring communication components (as that term is defined in the present application), creating a servant list of neighboring communication components, and maintaining the current utilization level of each server functionality of the neighboring communication components in the servant list by performing repeated searches at timed intervals. While Traversat may generically disclose that peer groups can be monitored, Traversat includes no disclosure of the specific claimed method of performing searching and monitoring through creating servant lists of "neighboring

communication components" and then periodically performing repeated searches to maintain utilization levels, as claimed. Such generic disclosures of the results (e.g., monitoring) cannot teach specifically claimed methodology of how to achieve the results (e.g., specific steps of performing monitoring).

Traversat is devoid of any teaching or suggestion of searching neighboring communication components to create servant lists, and updating those servant lists with the current utilization level of each server functionality at timed intervals. A peer group in Traversat may be infinite. Traversat makes no distinction between neighboring components and other components. For example, at paragraph [0082], Traversat states that "[a] peer group may theoretically be as large as the entire collected universe." It is for this reason that while query messages may be forwarded from one rendezvous node, or peer, to another, Traversat implements a "time-to-live", or time-out parameter to limit query forwarding. This is because a search query can be propagated in Traversat so many times that it is repeated exponentially. This is due to the peer group in Traversat being as large as any connected universe. For example, with respect to the time-to-live parameter, paragraph [0028] of Traversat states:

> Each discovery query message may include a time-to-live (TTL) indicator. TTL's may also help limit the propagation of requests within the network. The TTL may indicate a length of time during which the resource advertisement is valid. The rendezvous nodes receiving the discovery query message may decrement the time-to- live indicator to reflect the current time-to-live. When the TTL expires, the discovery query message may be deleted or invalidated.

In contrast, the present invention queries only neighboring components to create a servant list. Components that are not neighboring, in the sense as used in the present

application, will not be queried, but will be included in other components' servant lists for which they are a "neighbor". The servant lists are updated to reflect the current utilization level of each server functionality of the neighboring communication components by performing a repeated search at timed intervals. The Final Office Action and the Advisory Action ignore these limitations and do not provide the requisite reasoning and rationale to support an obviousness rejection. **(pages 11-15 of Appeal Brief)**

Examiner's Response:

First of all, Examiner would like to point out what is "communication components". As claim 8 recites "a plurality of communication components at least some of which comprise both client and server functionalities."

Traversat teaches at para. [0027], "Rendezvous nodes preferably cache information that may be useful to peer nodes including new peer nodes. Rendezvous nodes may provide an efficient mechanism for isolated peer nodes to discover network resources and may make peer node discovery more practical and efficient. **In one embodiment, peer nodes may become rendezvous nodes. Peer nodes may elect themselves, through the discovery protocol, to become rendezvous nodes.** Alternatively, peer nodes may be appointed rendezvous nodes by their peer groups. **Preferably, a peer group is not required to have a rendezvous node.** In one embodiment, any members of a peer group may become rendezvous nodes in a peer group."

And at para. [0090], "The peer-to-peer platform may further include a peer-to-peer services layer 140. This layer may provide capabilities that may not be absolutely necessary for a peer-to-peer network to operate but that may be desirable to provided added functionality beyond the core layer 120 in the peer-to-peer environment. The service layer 140 may deal with higher-level concepts such as search and indexing, directory, storage systems, file sharing, distributed file systems, resource aggregation and renting, protocol translation, authentication and PKI (public key infrastructure) systems. These services, which may make use of the protocols and building blocks provided by the core layer 120, may be useful by themselves but also may be included as components in an overall P2P system. Thus, services may include one or more services 144 provided by the peer-to-peer platform. **These platform-provided services 144 may include indexing, searching and file sharing services, for example, The services layer 140 may provide hooks for supporting generic services (such as searching, sharing and added security) that are used in many P2P applications, Thus, services may also include one or more services 142 not provided as part of the peer-to-peer platform but rather provided by the peer-to- peer platform community, These services 142 may be user-defined and may be provided, for example, to member peers in a peer group as a peer group service."**

Traversat teaches that communication components (peers) comprise both client and server functionalities. It is the part and parcel of being a peer as described in para. [0027] and [0090].

Traversat teaches at FIG. 2 illustrating one embodiment of peer-to-peer platform software architecture at the conceptual level.

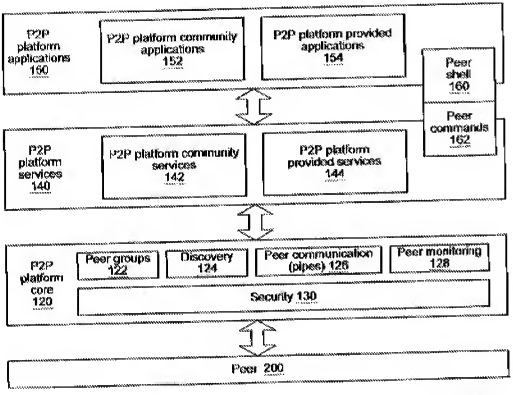

FIG. 2

Please note elements 128 "PEER MONITORING" and 122 "PEER GROUPS."

Each of the peers incorporate this element having the functionality of:

Para. [0083], "**Peer monitoring 128** enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting, traffic metering, and bandwidth balancing."

Peer groups 122 may establish a set of peers and naming within a peer group with mechanisms to create policies for creation and deletion, membership, advertising and discovery of other peer groups and peer nodes, communication, security, and content sharing.

Para. [0114], "Peers may publish and provide network resources (e.g. **CPU, storage and routing resources**) that may be used by other peers. **Peers typically interact with a small number of other peers (network neighbors or buddy peers)**. Peers that provide the same set of services tend to be inter-changeable. Thus, it may not matter which peers a peer interacts with. Generally, assumptions should not be made about peer reliability or connectivity, as a peer may appear or leave the network at any time. Peers may have persistent storage. **A peer may optionally cache information**."

Para. [0128], "Peer groups may also create a monitoring environment. Peer groups may permit peers to monitor a set of peers for any special purpose (heartbeat, **traffic introspection**, accountability, etc.). Peer groups may also provide a controlled and self-administered environment. Peer groups may provide a self-organized structure that is self-managed and that may be locally managed."

Para. [0477], **"Peer Monitoring and Metering"**.

Para. [0478], "Peer monitoring may include the capability to closely **keep track of a (local or remote) peer's status**, to control the behavior of a peer, and to respond to actions on the part of a peer. These capabilities may be useful, for example, when a peer network wants to offer premium services with a number of desirable properties

such as reliability, scalability, and guaranteed response time. For example, a failure in the peer system is preferably detected as soon as possible so that corrective actions can be taken. It may be preferable to shut down an erratic peer and transfer its responsibilities to another peer."

Para. [0479], "**Peer metering** may include the capability to accurately account for a peer's activities, **in particular its usage of valuable resources**. Such a capability is essential if the network economy is to go beyond flat-rate services. Even for providers offering flat rate services, it is to their advantage to be **able to collect data and analyze usage patterns** in order to be convinced that a flat rate structure is sustainable and profitable."

Para. [0480], "In one embodiment, the peer-to-peer platform may provide **monitoring and metering** through the peer information protocol, **where a peer can query another peer for data such as up time and amount of data handled**. Security is important in peer monitoring and metering. In one embodiment, a peer may choose to authenticate any command it receives. In one embodiment, a peer may decide to not answer queries from suspect sources."

Additionally, Traversat teaches at:

Para. [0124], "**Peer groups may be formed and self organized based upon the mutual interest of peers**. In one embodiment, no particular rules are imposed on the way peer groups are formed, but peers with the same interests may tend to join the same peer groups."

Para. [0125], "In one embodiment, a scope may be realized with the formation of a corresponding peer group. **Peer group boundaries may define the search scope when searching for a group's content**."

Para. [0126], "**Peer groups may also be formed based upon the proximity of the member peers. Proximity-based peer groups may serve to subdivide the network into abstract regions. (neighboring ones of the communication components)**."

Para. [0127], "Peer groups may provide a secure cooperative environment. **Peer group boundaries permit member peers to access and publish protected contents**. Peer groups form virtual secure regions which boundaries limit access to the peer group resources."

Parisamy teaches at col. 9, line 27-54, "Alternatively or in addition, however, remote peers can select among local backup peers based on cost information obtained **during the capabilities exchange;** indeed, this information can be used not only for backup purposes, but **also to facilitate load balancing with respect to primary** peers. For example, remote peer 715 can be configured to connect to local primary peer 735 and also to the remote peers on backup list 740**. During the capabilities exchange, each of the local peers to which remote peer 715 connects provides cost data comprising both an "inherent" resource cost associated with the peer itself and a telecommunication cost for the connection.** The resource cost associated with a particular peer (sometimes called the "box cost") represents, essentially, the cost to the network of a connection to the peer, and depends, for

example, on its configuration and capabilities (for example, the more computationally powerful the machine and the more memory with which it is equipped, the smaller will be the cost) and the current traffic level through the device (so that high-traffic peers have higher costs than low-traffic peers). The costs associated with the various local peers bias the remote peer to the primary and backups that are optimal from the perspective of network efficiency and telecommunication cost; the remote peer is programmed to dynamically evaluate cost data, along with any other network-management information deemed relevant by the system designer, in order to select the proper local peers."

Thus as illustrated by above paragraphs of Traversat and Periasamy teaches:

1. Searches for neighboring ones of the communication components;
2. Creates a servant list of the neighboring communication components;
3. Maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeated search at timed intervals.

Appellant's Argument :

To support an obviousness rejection, MPEP § 2143.03 requires that "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." Further, MPEP § 2141.02 requires "interpreting the claim language, and considering both the invention and the prior art references as a whole." "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, **there must be some articulated reasoning with some rational underpinning to support the**

legal conclusion of obviousness." KSR International Co. v. Teleflex Inc., 550 U.S. 398,419,82 USPQ2d, 1385, 1396) (2007) (citing In re Kahn, 441 F.3d 977,988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (*emphasis added*)); MPEP § 2143.01. Because the Final Office Action and the Advisory Action do not specifically address the claim limitations of independent claims 8 and 16 discussed above, the obviousness rejection in improper and should be reversed.

Accordingly, for at least those reasons articulated above, independent claims 8 and 16 are believed allowable over the prior art. **(page 15 of Appeal Brief)**

Examiner Response:

Traversat teaches at para. [0083], "Peer monitoring 128 enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting, traffic metering (current utilization level), and bandwidth balancing (cost)." para. [0176], "Simple, low- cost information search and indexing using a content sharing service."; Periasamy teaches "wherein the server functionalities provide usable services in the communication network wherein a server functionality is selected for use by a client functionality using a state information comprising current utilization level of each of the server functionalities and the cost to use each of the server functionalities"(col. 9, line 27-54 of Parisamy).

Thus, the manner of enhancing a plurality of communication components of Traversat was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Periasamy. Accordingly, one of ordinary skill in the

art would have been capable of applying this known "improvement" technique in the same manner to the prior art communication components of Periasamy and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized that applying the teachings of Periasamy would establish an optimal use of the network from the perspective of network efficiency and telecommunication cost. **(KSR International Co. v. Teleflex Inc., 550 U.S. 398,419,82 USPQ2d, 1385, 1396) (2007))**

Appellant's Argument :

"Dependent claims 9, 14-15, 28-29 and 17-18, 22-25, 31-32 depend cognately from independent claims 8 and 16, respectively, and also contain the limitations discussed above. For at least the above articulated reasons, these dependent claims are also believed allowable over the prior art."

Examiner Response:

Dependent claims 9, 14-15, 28-29 and 17-18, 22-25, 31-32 depend cognately from independent claims 8 and 16, respectively, and also contain the limitations discussed above. For at least the above reasons for the rejection of independent claims 8 and 16, and furthermore for the reasons stated in the Office Action, mailed February 18, 2010, the dependent claims 9, 14-15, 28-29 and 17-18, 22-25, 31-32, respectively remain rejected under 35 U. S. C. §103(a).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Joseph Gazda/

Examiner, Art Unit 2491

Conferees:

/Ashok B. Patel/

Supervisory Patent Examiner, Art Unit 2491

/Beatriz Prieto/

WQAS TC 2450